

In the Specification:

Please amend the following paragraph.

[0016] Figures 1A-E shows a diagrammatic illustration of the work steps which are run through in the method according to the invention. ~~figure~~Figure 1A illustrates in lateral view a section through a substrate 1, for example a silicon wafer. The construction of the substrate 1 is not subject to any particular limitations. By way of example, the substrate 1 may also comprise a plurality of layers arranged one above the other. Thus, an epitaxially deposited layer made of monocrystalline silicon or a layer made of silicon dioxide may be arranged on the silicon wafer. Equally, it is also possible for components already to be integrated into the wafer, for example trenches. For the sake of clarity, such layers or structures integrated in the substrate 1 are not illustrated. Firstly, a layer 2 made of ruthenium or ruthenium(IV) oxide is deposited onto the substrate 1. The deposition is effected by customary methods, for example a CVD method (CVD=Chemical Vapor Deposition) or an ALD method (ALD=Atomic Layer Deposition). A gaseous precursor compound that may be used for the ruthenium is, by way of example, a ruthenium halide which is converted into the ruthenium metal using hydrogen or into the ruthenium(IV) oxide using an oxygen-containing precursor compound. Examples of further suitable precursor compounds are organometallic compounds of ruthenium, such as  $\text{Ru}(\text{dpm})_3$  (tris(dipivaloylmethanato)ruthenium). Suitable precursor compounds are described for example in M.-K. Kadoshima, T. Nabatame, M. Hiratani, Y. Nakamura, I. Asano, T. Suzuki Jpn. J. Appl. Phys. 41 (2002), L347- L350, Part 2, No. 3B, and K.-W. Kim, N.-S. Kim, Y.-S. Kim, I.-S. Choi, H.-J. Kim, J.-C. Park, S.-Y. Lee Jpn. J. Appl. Phys. 41 (2002) 820-825 Part 1, No. 2A. Water or ozone, for example, may be used for the deposition of the oxygen of the ruthenium(IV) oxide. The construction illustrated in ~~figure~~Figure 1B is obtained, in which a layer 2 made of ruthenium

or ruthenium(IV) oxide is arranged on the substrate 1. In the next method step, illustrated in Figure 1C, a covering layer 3 is deposited onto the layer 2 made of ruthenium or ruthenium(IV) oxide. The material of the covering layer 3 is chosen such that, on the one hand, it is inert with respect to oxygen and, on the other hand, it can be removed selectively with respect to ruthenium or ruthenium(IV) oxide, for example by means of a selective etching step. In this case, the covering layer 3 does not have to be embodied homogeneously. It is also possible, for example, to use a layer stack in which the layer arranged at the very top has the required properties. One material which is suitable for the covering layer 3 is silicon dioxide, for example. If necessary, the covering layer 3 may be patterned in order to produce a mask 4 obtained from the covering layer 3. Customary methods can be used for this purpose. By way of example, it is possible to apply a photosensitive mask on the covering layer 3 (not illustrated). This photosensitive layer may subsequently be selectively exposed and developed. Uncovered regions of the covering layer 3 may then be removed in a selective etching step, so that the construction illustrated in Figure 1D is obtained after the removal of the mask fabricated from the photosensitive layer. A continuous layer 2 made of ruthenium or ruthenium (IV) oxide is arranged on the substrate 1. A covering layer 3 forming the mask 4 is arranged on sections of the surface of the layer 2 made of ruthenium or ruthenium(IV) oxide, thereby obtaining sections 2a covered by the covering layer 3 and uncovered sections 2b of the layer 2 made of ruthenium or ruthenium(IV) oxide. The substrate illustrated in Figure 1E is then heated in an oxygen atmosphere to a temperature which is preferably chosen to be greater than 800°C. In this case, the sections 2a of the layer 2 made of ruthenium or ruthenium(IV) oxide which are protected by the covering layer 3 are subjected to heat treatment, with the result that an improvement of the layer quality is achieved through a rearrangement of atoms or an elimination of unreacted groups of precursor compounds. In the

uncovered sections 2b, the ruthenium or ruthenium(IV) oxide reacts with the oxygen of the oxygen atmosphere to form volatile ruthenium (VIII)oxide ( $\text{RuO}_4$ ). Said  $\text{RuO}_4$  sublimates away at the chosen temperatures above  $800^\circ\text{C}$ , so that the uncovered sections 2b of the layer 2 made of ruthenium or ruthenium(IV) oxide are removed and the construction illustrated in Figure 1E is attained. A patterned layer 5 made of ruthenium or ruthenium (IV) oxide is arranged on the substrate 1, which layer is still covered by the covering layer 3 (or mask 4) in the case of the arrangement illustrated in ~~figure~~Figures 1-5. If necessary, the covering layer 3 may be removed selectively with respect to the patterned layer 5 made of ruthenium or ruthenium(IV) oxide in a concluding step.